

# PATENT SPECIFICATION (11)

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- (21) Application No. 46367/76 (22) Filed 8 Nov. 1975 (19)  
(31) Convention Application No. 53501/75 (32) Filed 10 Nov. 1975 in  
(33) Greece (GR)  
(44) Complete Specification published 12 April 1978  
(51) INT. CL.<sup>2</sup> B65D 9/12  
(52) Index at acceptance  
B8P 18 4B 5A 8C2E 9B2 9D



## (54) CONTAINERS

- (71) I, EVANGELIA REKLITIS, a Greek Subject, of 84 Sparta Street, Piraeus, Greece, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—
- This invention relates to containers, of rectangular or cubic shape, for the transportation of goods by sea, land or air, and the component panels of which can be assembled to form a container for the reception and shipment of goods and then disassembled again to the component panels which can be packaged and returned as parcels and not in the form of containers, taking less space and thus contributing to the development of transports by containers, as a result of reduced costs. This assembling and disassembling of the container represents an important feature of the present invention.
- Standard containers used throughout the world, with the exception of small (wooden) crates, cannot be disassembled and as a result of this they take up the same space, whether full or empty and accordingly increase the cost of transport by containers.
- It should be understood here that the use of one-trip non-returnable containers is not submultiples of international standard dimension used for containers, i.e. 8×8 or 8×8½ feet in section and 10, 20, 30 or 40 ft in length, and they have the following advantages (1) they can be adapted to the dimensions of container ships, (2) one or more containers can be used for one receiver instead of having one container carrying goods to more than one receiver and (3) they can be carried by any means because of their small overall weight.
- According to the present invention there is provided a container comprising a rectangular floor and roof, a pair of rectangular lateral side walls removably connected between said floor and roof and a pair of rectangular doors connected across the end openings so formed, wherein the floor and roof are provided at their side edges with a plurality of projections which engage in corresponding sockets formed in the lower and upper edges of said side panels or vice versa, a plurality of releasable first latching means being provided to hold said floor, roof and side walls securely interconnected, the doors being removably connected across the rectangular opening formed at the ends of said container by means of releasable second latching means operable externally of said container.

## ERRATUM

### SPECIFICATION NO 1507042

Page 1, Heading (22) Filed for 1975 read 1976

THE PATENT OFFICE  
18 September 1978

Bas 50296/13

The present invention seeks to remove the above disadvantages by providing a container with a 1.2×2.4×2 m section which can have a volume of from 1 cubic m. up to 50 cubic m. These dimensions are

..... of the present invention will now be described with reference to the accompany drawings in which:—  
Figure 1 is a perspective exploded view of a container.

Figure 2 is a detailed view of a pair of

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This invention relates to containers, of rectangular or cubic shape, for the transportation of goods by sea, land or air, and the component panels of which can be assembled to form a container for the reception and shipment of goods and then disassembled again to the component panels which can be packaged and returned as parcels and not in the form of containers, taking less space and thus contributing to the development of transports by containers, as a result of reduced costs. This assembling and disassembling of the container represents an important feature of the present invention.

Standard containers used throughout the world, with the exception of small (wooden) crates, cannot be disassembled and as a result of this they take up the same space, whether full or empty and accordingly increase the cost of transport by containers.

It should be understood here that the use of one-trip non-returnable containers is not advisable, since their manufacturing costs will increase transportation costs. In view of the fact that they must meet certain construction standards, their production cost are rather high. On the other hand, the return of the empty containers to their starting point is unprofitable since they take up considerable space.

We are therefore facing today a problem of cost in the field of transport by containers and a degree of reservation toward this new transportation system, for many reasons among which the cost of a non-returnable container or the cost of the return shipment for a returnable container.

The present invention seeks to remove the above disadvantages by providing a container with a 1.2×2.4×2 m section which can have a value of from 1 cubic m. up to 50 cubic m. These dimensions are

submultiples of international standard dimension used for containers, i.e. 8×8 or 8×8½ feet in section and 10, 20, 30 or 40 ft in length, and they have the following advantages (1) they can be adapted to the dimensions of container ships, (2) one or more containers can be used for one receiver instead of having one container carrying goods to more than one receiver and (3) they can be carried by any means because of their small overall weight.

According to the present invention there is provided a container comprising a rectangular floor and roof, a pair of rectangular lateral side walls removably connected between said floor and roof and a pair of rectangular doors connected across the end openings so formed, wherein the floor and roof are provided at their side edges with a plurality of projections which engage in corresponding sockets formed in the lower and upper edges of said side panels or vice versa, a plurality of releasable first latching means being provided to hold said floor, roof and side walls securely interconnected, the doors being removably connected across the rectangular opening formed at the ends of said container by means of releasable second latching means operable externally of said container to connect said doors to the floor and roof and the side walls of the container.

The container of the present inventions, after having been emptied, can be disassembled into a number of flat elements and packaged into parcels of identical size.

This invention also intends to provide a container which would reduce the cost of transportation by containers and eliminate the objections against this new transportation medium, since this new container does not have to be discarded as useless after having been emptied of its contents but can be returned empty in the form of a parcel.

Preferred embodiments of the present invention will now be described with reference to the accompany drawings in which:—  
 Figure 1 is a perspective exploded view of a container.

Figure 2 is a detailed view of a pair of

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couplings for securing the floor or roof part of the container to the lateral parts.

Figure 3A and 3B are respectively a side and front view of a container door showing the latching system used for connecting the two lateral parts which form the doors, to the floor and roof.

Figure 4 is a detailed front view of a joint at the junction point of four covering panels.

Figures 5A and 5B are respectively a plan view of two adjacent panels and a section taken along the line A—A of Figure 5A.

Figure 6 is a perspective view of five different sided containers constructed in accordance with the present invention.

Referring to figure 1, a, a<sup>1</sup>, b, and c respectively represent the structures of a floor and a roof of a container, the two end doors and the two side walls. The floor, roof, door and side walls of the container are made of a framework of wood or metal to which a wood, metal or plastics covering is secured for example by riveting. The floor and roof are formed with a series of projections 1, which fit into corresponding sockets on the structure of the side parts. The floor structure is also fitted with a series of feet 19 made of wood or some other material, in order to facilitate handling and loading of the container.

The side walls 'c' consist of several panels 2 which are joined together along their abutting edges 3 and at their corners by connectors 4, as described below.

Figure 2 shows the fastening system between the floor or roof a, or a<sup>1</sup> to one of the side walls c. As shown flattened hooks 14 are fastened on the floor or roof structure and a rotating excentric handle 5 is fastened in bearing 15. These bearings are fastened at points 8, 7 on the side walls and carry eyes 6 which interlock with the hooks 14 loosely and then stretch as the handle 5 is rotated downwards from the upper position, bringing together the floor or roof elements and the side walls until they are joined to one another. This fastening system is similar to that used for closing suitcases.

It must be understood that two such fastening devices are fitted at positions 7 of the side walls c (figure 1) and one at each position 8, i.e. there are six fastening devices on the upper side and six on the lower side of each side wall, which means that there are twenty four such fastening devices on the interior of each container.

Figure 3 shows the system used for latching the doors b on to the side walls and on to the floor and roof of a container. When handle 9 is turned upwards the doors are unlatched, i.e. projections 10 which run in guides on the door, retracted. After the positioning of the doors, the handle is turned downwards and projections 10 move into

corresponding sockets on the floor and roof. Such latching systems are fitted at points 16 on the doors. It should be understood that apart from the vertical systems, such as that shown in figure 3(b), there are similar systems of points 17 for the latching of the doors into the side walls, i.e. there are four latching devices on each door.

Figure 4 shows a connector 4 at the junction point of four panels 2 which ensures the tightness of the meeting point of the four panels which, as can be seen from figure 1 are ribbed for higher rigidity.

Figure 5 shows the way in which the covering panels 2 are fixed together along their edges. An H shaped profile strip 11 embraces the side edges 12 of adjacent panels and rivets or pins 13 secure the panels in place.

Figure 6 is a perspective view showing how a variety of different sized containers can be produced by varying the number of component panels forming the floor, roof, side walls and doors.

The assembling of a container is carried out in the following way: First a floor part 'a' consisting of a frame structure and the covering, riveted together, is placed on the floor; then the side walls c are fitted in such a way that projections 1 of the floor engage into corresponding sockets on the side walls; after that the roof part a<sup>1</sup> is positioned so that the projections 1 of the roof move into the corresponding upper sockets of the side walls already in position. The hooks 14 interlock with the eyes 6 of the catches and the handles of the upper fastening systems are lowered and the handles of the lower systems raised. The container can then be filled with goods, after which the doors (b) are placed in front of the openings; before this however a rubber strip is preferably placed on the border of the opening to ensure better tightness of the doors and lateral parts as mentioned above. Finally, the doors are latched by means of the horizontal and vertical latches by turning the handle 9.

If necessary, the air-tightness of the containers can be improved by providing a rubber or plastics seal between the side walls and the floor and roof panels.

#### WHAT I CLAIM IS:—

1. A container comprising a rectangular floor and roof, a pair of rectangular lateral side walls removably connected between said floor and roof and a pair of rectangular doors connected across the end openings so formed, wherein the floor and roof are provided at their side edges with a plurality of projections which engage in corresponding sockets formed in the lower and upper edges of said side panels or vice versa, a plurality of releasable first latching means being pro-

- vided to hold said floor, roof and side walls securely interconnected, the doors being removable connected across the rectangular opening formed at the ends of said container by means of releasable second latching means operable externally of said container to connect said doors to the floor and roof and the side walls of the container.
2. A container as claimed in claim 1 wherein said doors are provided with resilient sealing means around the peripheral edges thereof for sealing engagement with the side edges of said floor, roof and side walls.
3. A container as claimed in claim 1 or

claim 2 wherein the side walls are formed of a plurality of panel members interconnected in edge to edge relationship.

4. A container as claimed in claim 3 wherein the floor, roof and doors are formed of a plurality of interconnected panels.

5. A container substantially as described herein with reference to the accompanying drawings.

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COMPLETE SPECIFICATION

3 SHEETS

This drawing is a reproduction of  
the Original on a reduced scale

Sheet 1

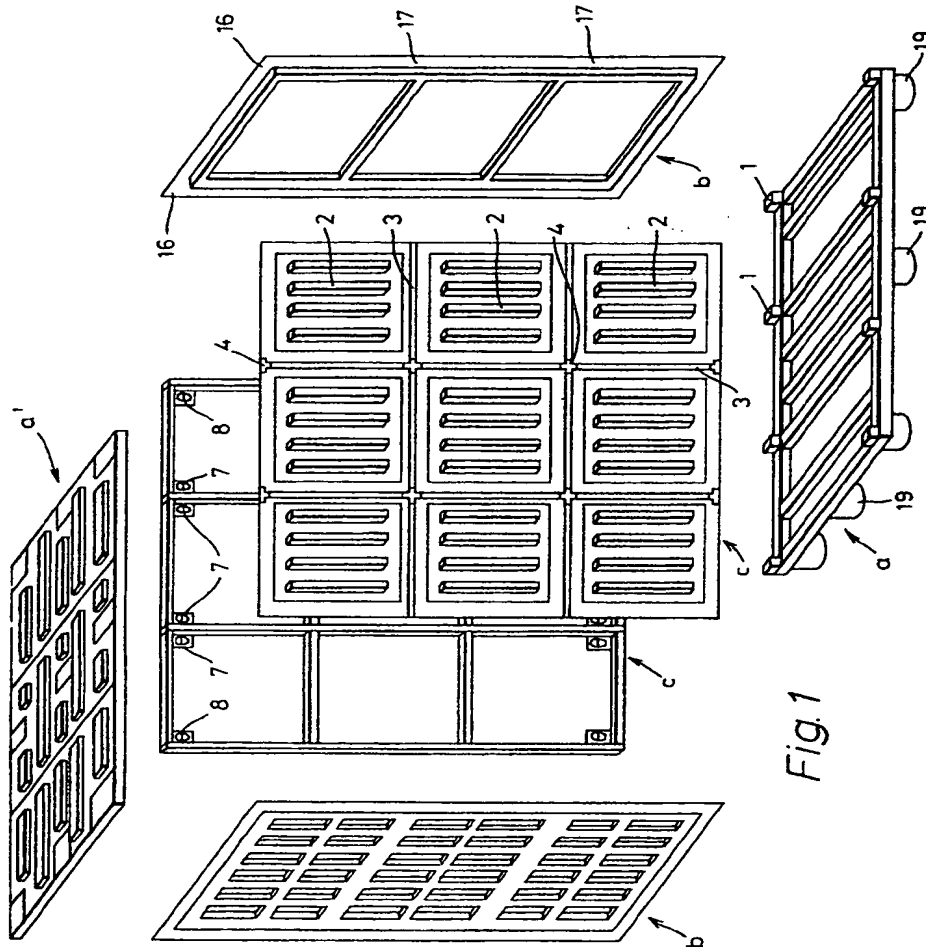


Fig. 1

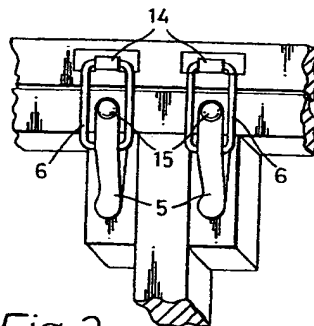


Fig. 2

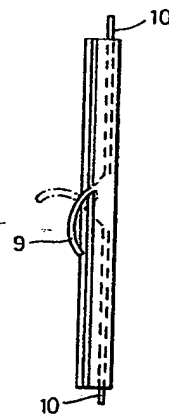


Fig. 3A

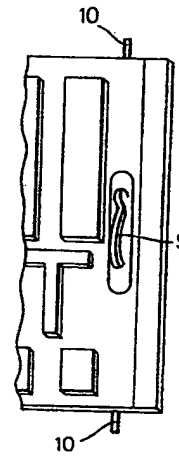


Fig. 3B

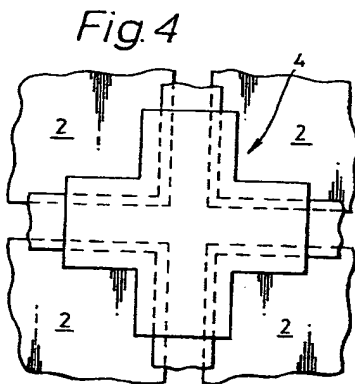


Fig. 4

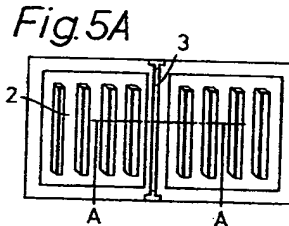


Fig. 5A

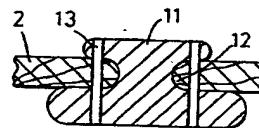


Fig. 5B

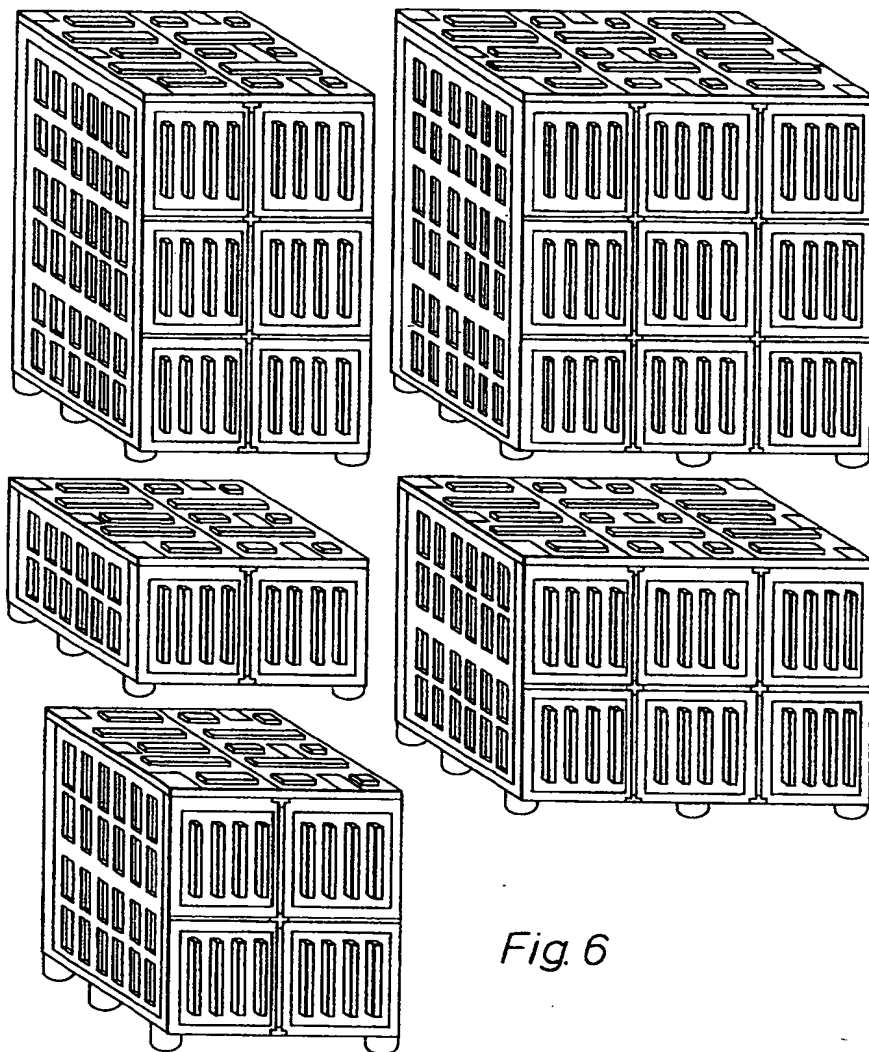


Fig. 6

